Airborne LIDAR Survey

Date Revised: 14 MAR 03

VENDOR DESCRIPTION

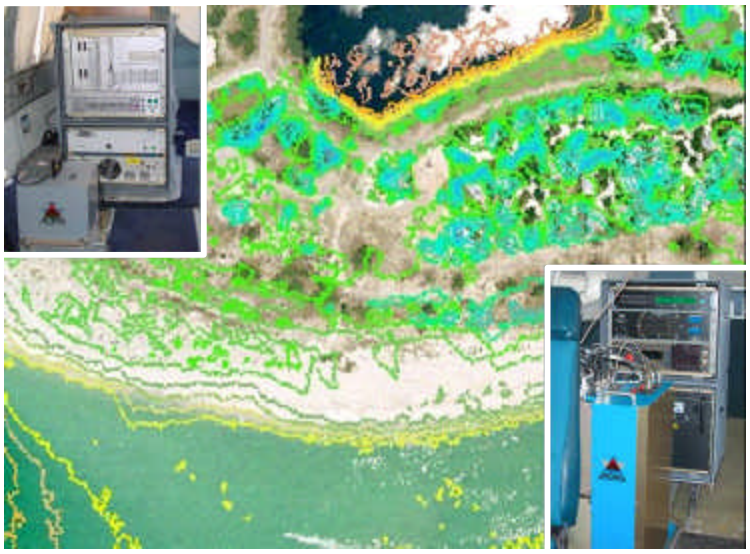
Optech has been the world leader in airborne LIDAR survey technology for almost 30 years, and has been providing terrain and bathymetric LIDAR survey systems to military customers for 16 years.

Optech currently serves the US DoD by supplying and supporting two terrain mappers and three bathymeters. In addition, over 40 Optech commercial mapping systems are in use worldwide.

The Optech ALTM offers data acquisition rates of up to 50,000 pulses per second; innovative options such as intensity; simultaneous first-last pulse; roll compensation; and digital camera integration. ALTM offers shot-to-shot accuracy as high as 5 cm. All terrain types, including forests, tidal flats and featureless terrain, can be surveyed rapidly and economically.

Optech has been the world leader in airborne LIDAR hydrography since the mid-1980s, with a 90% market share of systems sold. SHOALS-1000 is Optech's fourth-generation product of this type, capable of 1,000 measurements per second of water depths, down to 50 m deep.

Optech anticipates future deliveries of 3-30 UAV LIDAR sensors and 3-30 UGV visioning systems between 2003 and 2008 as part of an approved ACTD.



Product Manager
Robotic & Unmanned Sensors
Telephone: (732) 427-5827 / DSN 987
Fax: (732) 427-5072 / DSN 987
e-mail: SFAE-IEWS-NV-RUS@iews.monmouth.army.mil

LIDAR

Hardware	
Power: 600 watts	Operating Altitude: 0.2 km to 3.0 km AGL
Weight: 70 lbs	Operating Speed: 0 knots to 250 knots
Dimensions: 17" x 15" x 8"	Operating Temp.: 10°C to 35°C
Internal Volume: 1.2 ft^3	Storage Temp.: -40°C to +50°C
On-board storage capacity to handle 20 hours on station	Interface: Ethernet
Sensor Type: Pulsed Time of Flight	Bandwidth Required: 900 kbps
Sensor Field of View: ±20°	TCDL Compatibility: Yes
Depression Angle: 0 to 40°	MTBSA: 96 hrs
Geolocation Accuracy: 30 cm rms horizontal and 15 cm rms vertical	MTTR: 4 hrs
	Maintainability: 4-level user diagnostics

Swath Width: 2 km	Spatial Resolution: 6 cm
Nominal Ground Sample Distance: 0.25 m	Self-Calibration: No
Scan Angle: 0 to ± 20° active	Processing Time: 4 x flight hours
Scan Angle: ± 2048 stops	Payload Stabilization: N/A